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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/308,303	05/17/1999	CHRISTIAN MENZEL	P99.0499	5981

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EXAMINER

PAN, YUWEN

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/308,303

Applicant(s)

MENZEL ET AL.

Examiner

Yuwen Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 18-24, 33, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Billstrom et al (US005590133A).

Referring to claim 18 and 33, Billstrom et al disclose a method for configuring a radio interface between a mobile station and a base station of time-division multiplex mobile radio system for packet data transmission, including defining a transmission from a mobile station to the base station as an uplink direction, defining a transmission from the base station to a mobile station as a downlink direction (see column 18 and line 66-66), forming a channel by at least one time slot per a time-division multiplex frame, where the packet data transmission from a plurality of mobile stations takes place via the channel (see column 17 and line 33-45), combining 52 frames to form a macroframe (See figure 6), providing a time slot for signaling at cyclic intervals in the channel and allocating by the base station just one time slot for signaling for the uplink direction to the mobile station in accordance with a sequence which can be predetermined even in the mobile station does not transmit any packet data for the duration of a current and next macroframe, where in the mobile station transmit in the allocated time slot for signaling. See column 7 and line 1-27, and figure 1.

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Referring to claim 19 and 34, Billstrom further teaches to determine a timing advance for the respective mobile station from transmissions by the mobile station in the allocated time slot; and transmitting the timing advance in a time slot for signaling in the downlink direction to the corresponding mobile station. See column 9 and line 30-67.

Referring to claim 20 and 21, Billstrom further teaches the timing advance and values for a transmission power setting from the time slots for packet data transmission independently of on another. See column 10, line 2-6, and column 11, line 27-46.

Referring to claim 23, Billstrom further teaches transmitting configuration data defined in the downlink direction in time slots for packet data transmission.

Referring to claim 24, Billstrom further teaches providing by the base station the timing advance for the configuration of the radio interface without being controlled by a base station controller. See column 10 line 1-6.

Referring to claim 27, Billstrom further teaches providing information in time slots for signaling with additional coding. See column 17 and line 32-49.

Referring to claim 28, Billstrom further teaches enabling the packet data transmission to take place in both the uplink and downlink directions independently of one another. See figure 13 and respective specification and column 7, line 20.

Referring to claim 29, Billstrom further teaches designating the mobile stations for packet data transmission by identifiers and allocating via the time slots for signaling in the downlink direction, one or more time slots for signaling in the uplink direction to the base stations by means of indicator messages which contain identifiers and time slot designations. See column 18 and line 8-27.

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Referring to claim 30, Billstrom further teaches transmitting by a mobile station per time slot for signaling in the uplink direction; a self-contained message with contains a reception level of mobile station.

Referring to claim 22, Billstrom further teaches using long transmission block types for specific configuration data in the time slots for signaling in the uplink direction. See figure 13.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom et al (US005590133A) in view of Hamalainen et al (US005640395A).

Referring to claim 25 and 26, Billstrom et al disclose an analogous method as cited in claim 18. Billstrom et al do not expressly disclose combining a plurality of time slots for signaling to form a signaling block in accordance with a sequence, which can be predetermined, wherein remaining time slots are provided for an adjacent cell measurement of the mobile station. Hamalainen et al disclose combining a plurality of time slots for signaling to form a signaling block in accordance with a sequence, which can be predetermined, wherein remaining time slots are provided for an adjacent cell measurement of the mobile station. See figure 3 and respective specification. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine a plurality of time slots for signaling to form a

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signaling block. One of ordinary skill in the art would have been motivated to do this since it is more predictable and controllable.

5. Claim 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom et al (US005590133A) as applied to claim 18 above, and further in view of Hamalainen et al (US005640395A) and Sowles et al (US005659545A).

According to claim 31 and 32, Billstrom et al further teach to provide transmissions, from the mobile station in the timeslots for signaling allocated to it (see column 16 and line 42-49, column 20 and line 13-28). Billstrom et al do not disclose that access blocks have an extended preceding or subsequent guard time, whose transmission time results from a preceding transmission time, a signaled time advance and an offset value such that a range which corresponds to the offset value is greater than the distance which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. Hamalainen et al disclose access blocks having an extended preceding or subsequent guard time (see figure 4B). Hamalainen et al do not disclose transmission time results from a preceding transmissions time, a signaled timing advance and an offset value such that a range which corresponds to the offset value is greater than the distance which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. Sowles et al disclose time and frequency offset is greater than the distance, which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. See column 2, line 4-25 and column 8, line 20-46. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include guard time and offset to have correct synchronization with high speed moving transceivers. One of

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ordinary skill in the art would have been doing this since guard time that avoid crosstalking between adjacent slots is well known in the art and offset is to achieve proper frame timing alignment, determine the correct downlink time-slot and correct for the Doppler-shift associated with fast movement.

Response to Arguments

6. Applicant's argument is "a time slot for signaling is provided at cyclic intervals in a GPRS-K channel, and one time slot for signaling in the uplink direction from the mobile station to the base station is exclusively allocated to a respective mobile station, by the base station according to a predetermined sequence of mobile stations[,] [e]ach mobile station transmits in its allocated time slot for signaling, even when the mobile station transmits no packet data during the period of the current or next macro-frame." And "this time slot is exclusively allocated to the respective mobile station, and is not available to other mobile stations whose packet transmission takes place over the common GPRS-K channel."

The examiner does not agree because first of all, although GPRS (General Packet Radio Service) is an advanced technology over TDMA or GSM system, it is still deployed as an overlay to GSM network (see Billstrom et al at column 3 and lines 33-60). As the applicant mentioned above, communication between mobile and base station is still over time slot. Generally speaking, in a GSM or TDMA system, each frame has 8 time slots. During communication between mobile and base, usually one time slot of each is assigned to the mobile for uplink or base station for downlink purpose. Same position of time slot in each frame would be allocated to either mobile or base station. While one station is occupied one time slot, the same time slot would be allocated to second station for

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transmission, because it would cause collision. Second, Billstrom et al teach a PDCH, a new type of logical channel on physical channel (time slot). It is used for data transfer and control signaling, and may carry data from one MS and the downlink data to another (see column 7 and lines 13-27).

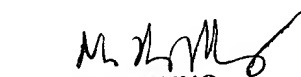
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 703-305-7372. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on 702-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Yuwen Pan
March 6, 2003


NAY MAUNG
PRIMARY EXAMINER